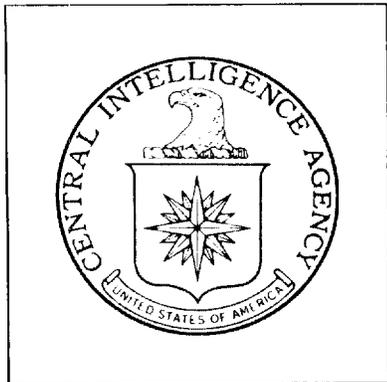


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DIRECTORATE OF INTELLIGENCE

Declass Review by NIMA / DoD

Imagery Analysis Report

Status of Major Cement Plants

in Communist China

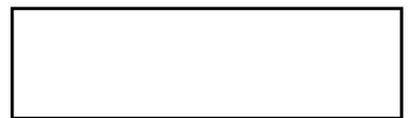


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IMAGERY ANALYSIS SERVICE

April 1968

STATUS OF MAJOR CEMENT PLANTS IN

COMMUNIST CHINA

[Redacted]

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SUMMARY

This study of the 43 major cement plants now identified through photography of Communist China reveals that [Redacted] two plants were completed and three others were expanded. The total number of known plants was also increased by the identification of two hitherto undiscovered plants. A search of photography on 12 cities where additional plants reportedly existed failed to reveal any cement production facilities

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Despite the continued construction and expansion of cement plants in China, the overall level of operations of this industry appears to have declined somewhat [Redacted] judging by the number of rotary kilns seen operating. Whereas the total number of kilns available increased from 89 [Redacted] to 96 [Redacted] the number actually observed operating declined from 65 to 57.

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[Redacted]

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[redacted]

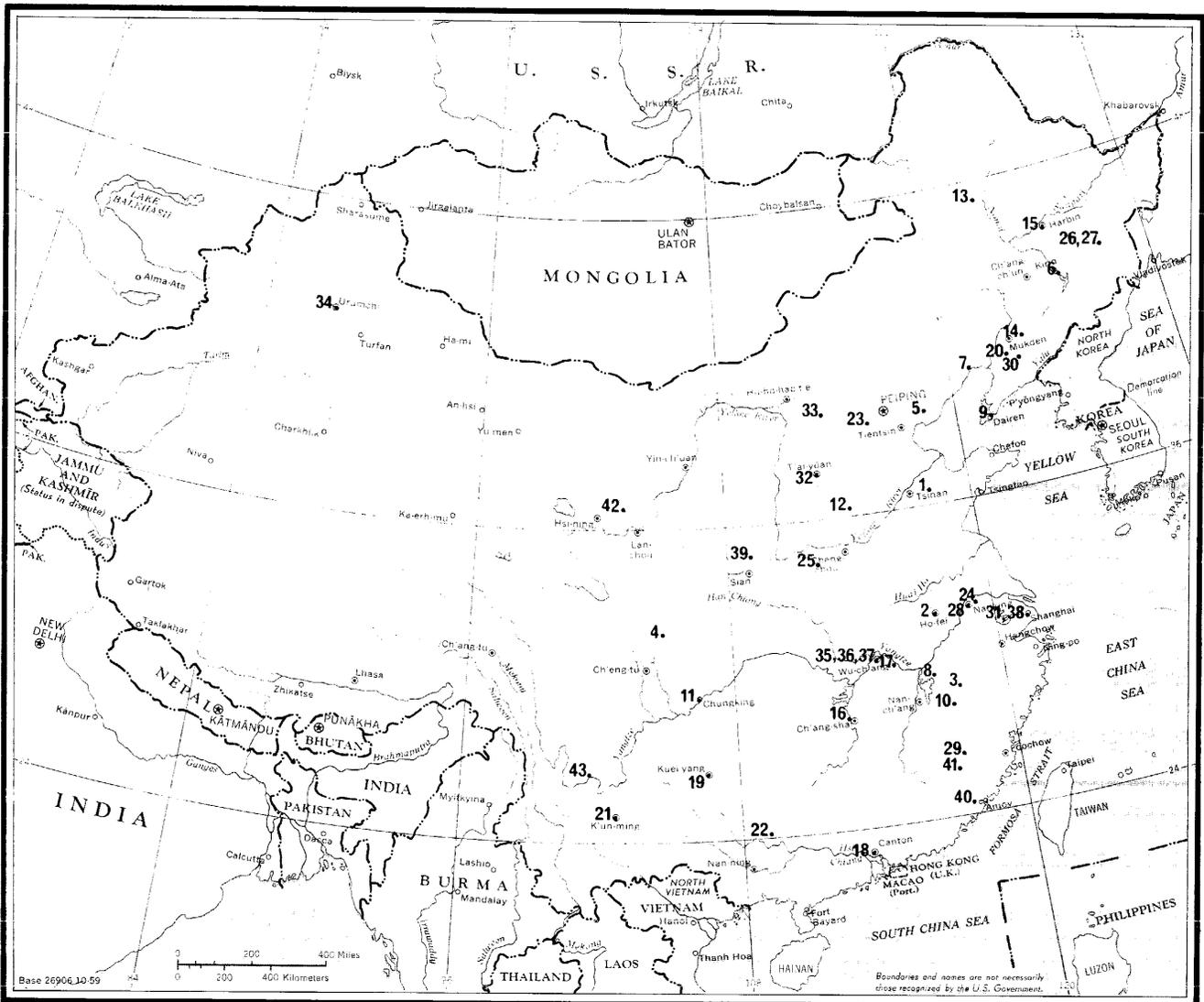


FIGURE 1. LOCATION MAP OF MAJOR CHINESE CEMENT PLANTS

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INTRODUCTION

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This report is based on [redacted] photographic coverage of 43 cement plants in Communist China. A search for additional cement plants reported at the following 12 cities failed to reveal any cement production facilities: An-chi (25-03N 118-13E), Cheng-chiang (32-13N 119-26E), Cheng-chou (34-45N 113-40E), Feng-cheng (28-13N 115-45E), Feng-shui (36-29N 117-50E), Hai-po-wsan (38-30N 106-35E), Hsiao-tun (41-16N 123-12E), Nan-ning (22-48N 108-18E), Pao-tou (40-36N 110-03E), Shan-chu-tzu (42-40N 118-30E), Soochow (31-18N 120-37E), and Tung-liao-shih (43-37N 122-16E).

The purpose of this study is to identify any new construction or modification revealed by recent photography of the major Communist Chinese cement plants. The 43 plants that are reported were studied using all available photographic coverage [redacted] Annotated photographic enlargements are included of the plants where significant new facilities have been recently constructed and of the plants which have not previously been reported.

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DISCUSSION

Among the 43 selected cement plants that were studied, two that had not previously been reported were completed [redacted] The first of these plants to be identified is located near the Kuo-kuo mining area at 26-36N 101-46E (Figure 1, item 43). The name of this plant is unknown, but it has one rotary kiln not yet in operation (See Figure 6). The plant was constructed [redacted] The second plant is the Feng-feng Cement Plant which is located 15 nautical miles (nm) southwest of Han-tan, China, at 36-28N 114-12E (Figure 1, item 12). This plant has three rotary kilns which have not yet gone into operation (See Figure 3). They were constructed [redacted]

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In addition to the two plants that were completed [redacted] three plants underwent significant expansion. The first of these is the Liu-chou Cement Plant, which is located 8 nm northwest of Liu-chou, China, at 24-22N 109-15E (Figure 1, item 22). This plant had one new rotary kiln and three new support buildings constructed [redacted] (See Figure 4). The second plant is the Ta-tung Cement Plant located 1.4 nm southwest of Kou-chuan-chen, China at 39-59N 113-07E (Figure 1, item 33). At this plant, the clinker building was lengthened and construction of ten silos was completed [redacted] (See Figure 5). The final plant to undergo significant [redacted]

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[redacted]

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expansion [redacted] is the Chang-tien Cement Plant which is located 2.5 nm south of Chang-tien, China, at 36-45N 118-03E (Figure 1, item 1). Two new rotary kilns were constructed at this plant [redacted] (See Figure 2).

A complete list of the 43 plants studied, their coordinates, the number of kilns in operation, the date on which the kilns were seen operating, and any alteration a plant underwent [redacted] can be found in Table 1. A compilation from the table gives a total of 96 rotary kilns with 57 of them observed in operation [redacted]

TABLE 1. MAJOR CEMENT PLANTS OF COMMUNIST CHINA (KEYED TO FIGURE 1)

ITEM NO.	NAME	COORDINATES	NO. OF KILNS	ALTERATION
1	CHANG-TIEN	36-45N 118-03E	4	TWO OF THE FOUR KILNS WERE CONSTRUCTED [redacted] PLANT WAS FIRST SEEN [redacted] NO NEGATION DATE CAN BE GIVEN (SEE FIGURE 2).
2	CHAO-HSIEN	31-36N 117-52E	2	NO APPARENT CHANGE [redacted]
3	CHIANG-SHAN	28-41N 118-34E	2	NO APPARENT CHANGE [redacted]
4	CHIANG-YU	31-59N 105-04E	3	NO APPARENT CHANGE [redacted]
5	CHI-HSIN	39-38N 118-11E	4	NO APPARENT CHANGE [redacted]
[redacted]				
8	CHIU-CHIANG	29-37N 116-07E	1	NO APPARENT CHANGE [redacted]
9	CHOU-SHUI-TZU	38-58N 121-32E	3	NO APPARENT CHANGE [redacted]
10	CHU-TIEN	28-43N 117-04E	0	NO APPARENT CHANGE [redacted]
[redacted]				
12	FENG-FENG	36-28N 114-12E	3	THIS PLANT WAS FIRST OBSERVED [redacted] IT HAS BEEN CONSTRUCTED [redacted] SEE FIGURE 3).
[redacted]				
14	FU-SHUN	41-51N 123-49E	2	ONE SMALL SUPPORT BUILDING HAS BEEN CONSTRUCTED [redacted]
15	HA-ERH-PIN	45-50N 126-43E	3	NO APPARENT CHANGE [redacted]
16	HSIANG-HSIANG	27-44N 112-12E	2	NO APPARENT CHANGE [redacted]
17	HUANG-SHIH	30-14N 115-04E	2	NO APPARENT CHANGE [redacted]
18	KUANG-CHOU	23-09N 113-14E	4	THIS PLANT WAS NOT COVERED [redacted]
[redacted]				

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TABLE 1. MAJOR CEMENT PLANTS OF COMMUNIST CHINA
(CONTINUED)

ITEM NO.	NAME	COORDINATES	NO. OF KILNS		ALTERATION	
20	KUNG-YUAN	41-16N 123-43E	2		NO APPARENT CHANGE	25X1
21	KUN-MING	25-01N 102-37E	2		NO APPARENT CHANGE	25X1
22	LIU-CHOU	24-22N 109-15E	3		ONE ROTARY KILN AND THREE SUPPORT BUILDINGS HAVE BEEN CONSTRUCTED	25X1
23	LIU-LI-HO	39-35N 116-02E	3		NO APPARENT CHANGE	25X1
24	LUNG-TAN	32-10N 119-03E	4		NO APPARENT CHANGE	25X1
25	MIAO-TOU-CHAI	34-45N 112-02E	2		NO APPARENT CHANGE	25X1
26	MU-TAN-CHAING 1	44-25N 129-29E	2		NO APPARENT CHANGE	25X1
27	MU-TAN-CHAING 2	44-26N 129-29E	1		NO APPARENT CHANGE	25X1
28	NAN-CHIANG	32-10N 118-58E	1		NO APPARENT CHANGE	25X1
29	NAN-PING	26-36N 118-10E	2		NO APPARENT CHANGE	25X1
30	PEN-CHI	41-15N 123-43E	2		NO APPARENT CHANGE	25X1
32	TAI-YUAN	37-52N 112-25E	2		NO APPARENT CHANGE	25X1
33	TA-TUNG	39-59N 113-07E	4		THE CLINKER BUILDING HAS BEEN LENGTHENED AND THE CONSTRUCTION ON TEN CEMENT SILOS HAS BEEN COMPLETED	25X1
34	URUMCHI	43-48N 087-35E	2		NO APPARENT CHANGE	25X1
35	WU-CHANG 1	30-38N 114-25E	1		NO APPARENT CHANGE	25X1
36	WU-CHANG 2	30-38N 114-24E	0		NO APPARENT CHANGE	25X1
					THIS PLANT HAS TWO VERTICAL KILNS THAT WERE NOT OPERATING	25X1
37	WU-CHANG 3	30-38N 114-24E	0		THIS PLANT IS ABANDONED AND HAS NOT CHANGED	25X1
39	YAO-HSIEN	34-56N 108-59E	3		NO APPARENT CHANGE	25X1
40	YING-TE	24-19N 117-19E	0		THIS PLANT IS ABANDONED AND HAS NOT CHANGED	25X1
					THE PLANT WAS NOT COVERED	25X1
41	YUNG-AN	26-02N 117-19E	1		NO APPARENT CHANGE	25X1
					THIS PLANT APPEARS INACTIVE.	25X1
42	YUNG-TENG	36-55N 102-50E	4		NO APPARENT CHANGE	25X1
43	26-36N 101-46E	1		THIS PLANT WAS COMPLETELY CONSTRUCTED	25X1
					IT WAS FIRST SEEN IN THE LATE STAGES OF CONSTRUCTION	25X1
					AN ANALYSIS OF SUBSEQUENT COVERAGE	25X1
					REVEALED THE PLANT APPARENTLY COMPLETE, BUT NOT IN OPERATION (SEE FIGURE 6).	25X1

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FIGURE 2.
CHANG-TIEN CEMENT PLANT

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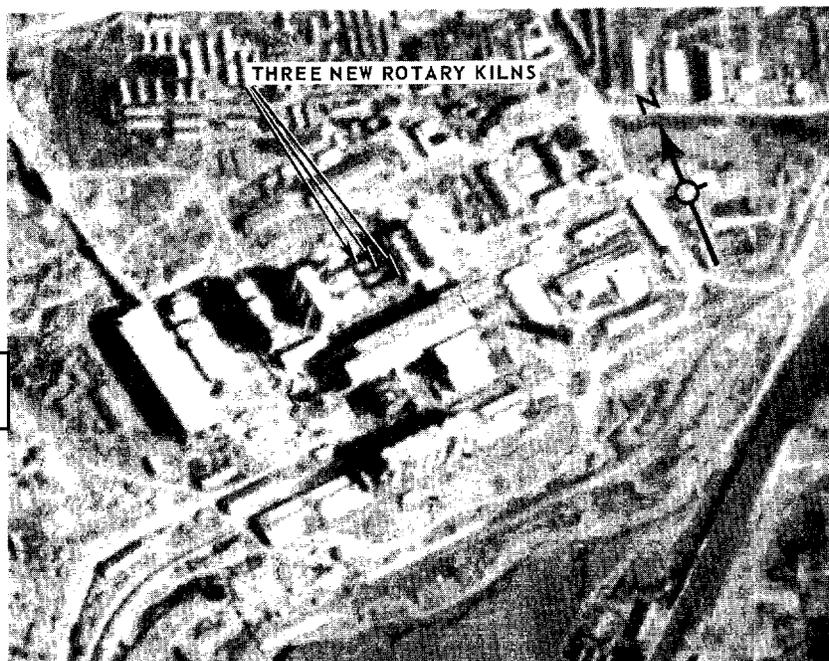


FIGURE 3.
FENG-FENG CEMENT PLANT

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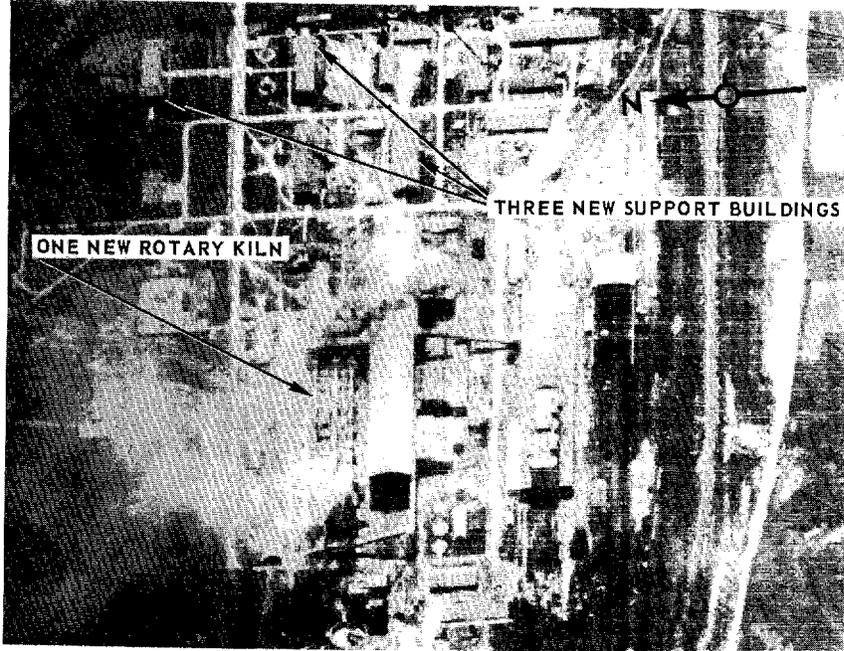


FIGURE 4.
LIU-CHOU CEMENT PLANT

[Redacted]

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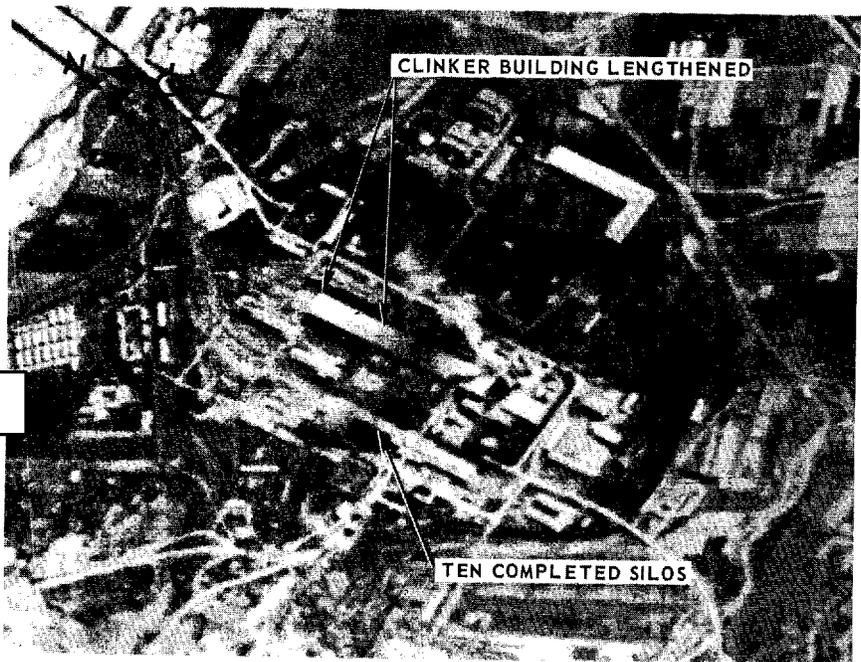


FIGURE 5.
TA-TUNG CEMENT PLANT

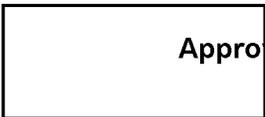
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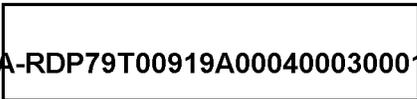
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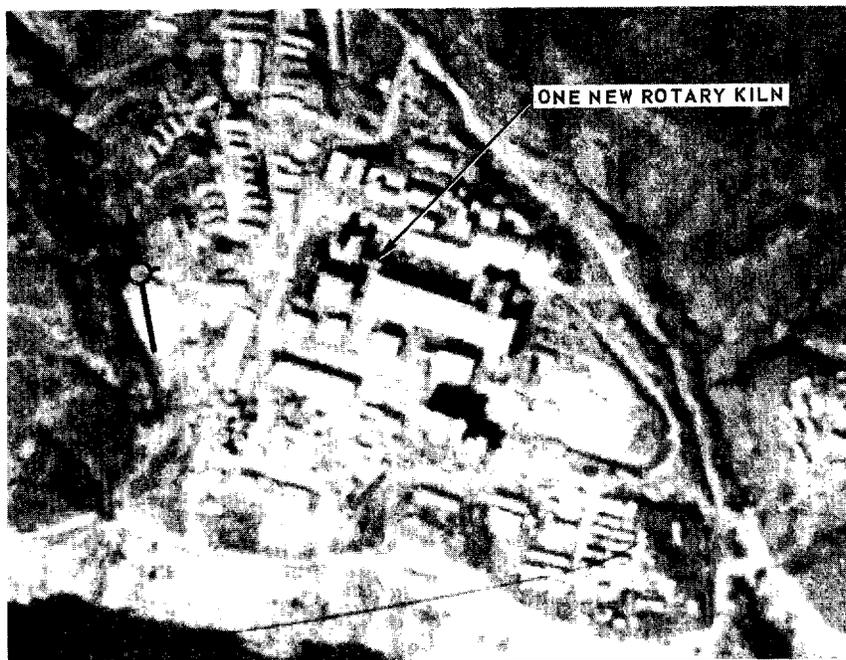


FIGURE 6. CEMENT PLANT NEAR KUO-KUO,



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